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August 14, 2001

TO: Members of the MAG POPTAC Ad Hoc Subcommittee

FROM: Harry Higgins, Scottsdale, Chairman

SUBJECT: MEETING NOTIFICATION AND TRANSMITTAL OF TENTATIVE AGENDA

Tuesday, August 21, 2001 - 8:30 a.m.
MAG Office, Suite 200, Saguaro Room
302 North 1st Avenue, Phoenix

A meeting of the MAG POPTAC Ad Hoc Subcommittee will be held at the time and place noted above. Please park in the garage under the Compass Bank Building. Bring your ticket to the meeting, parking will be validated. For those using transit, the Regional Public Transportation Authority will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage.

Please be advised that under procedures approved by the MAG Regional Council on June 26, 1996, all MAG committees need to have a quorum to conduct business. A quorum is a simple majority of the membership, or 4 people for the MAG POPTAC Ad Hoc Subcommittee. If you are unable to attend the meeting, please make arrangements for a proxy from your jurisdiction to represent you. If you have any questions or need additional information, please contact Harry Wolfe at (602) 254-6300.

TENTATIVE AGENDA

1. Call to Order
2. Approval of Minutes of April 19, 2001
3. Preparation of July 1, 2001 Maricopa County and Municipality Resident Population Updates

According to Executive Order 95-2, the Arizona Department of Economic Security

SUBCOMMITTEE ACTION REQUESTED

2. For information, discussion and approval of April 19, 2001 meeting minutes.
3. For information, discussion and possible action.

(DES) is responsible for preparing annually a resident population update for the State and each of its individual counties from which subregional updates are then developed. On July 27, 2001, the State Population Technical Advisory Committee met to discuss the methodology to be used for preparing the July 1, 2001 resident population updates. By consensus of the DES POPTAC it was recommended that the July 1, 2001 County updates be derived from the sum of the individual jurisdictional updates. MAG staff will review the housing unit methodology (HUM) for preparing the updates as well as present a draft set of updates. The methodology relies on residential completions, occupancy rates, and persons per household to calculate resident population in households; and a survey to estimate resident population in Group Quarters. The MAG POPTAC Ad Hoc Subcommittee will be requested to recommend approval of the Updates to the MAG POPTAC. Please see Attachment One.

4. Preparations for June 2002 Socioeconomic Projections

Executive Order 95-2 requires the preparation of official resident population projections using the latest Census as the base. With the release of Census 2000 Summary File 1 data, DES is developing a draft resident population projection for each of the counties in Arizona from 2005 through 2055. DES uses a demographic model to develop county projections, which projects future population based on the sum of natural increase and net migration. MAG staff will be working with DES to review the projections and provide input to enhance their accuracy. We have requested a review of the data sets that will be input into the model for developing the projections. It is anticipated that DES will be circulating a preliminary set of county projections to the DES POPTAC Methodology Subcommittee for the September 21, 2001 meeting. Based on input received, the projections will be refined and submitted for consideration by the DES

4. For information, discussion and possible action.

POPTAC in early 2002. Once approved by the DES POPTAC MAG will use these projections as control totals from which subregional projections will be developed. Please see Attachment Two.

5. MAG GIS and Database Enhancement Project

The MAG GIS and Database Enhancement Project will establish the base, which together with Census 2000 data, will be used to develop a new set of MAG socioeconomic projections. To date employer, development and redevelopment, hotel/motel, RV Park, group quarters, and post high school institution databases have been distributed. This month many items will be distributed for review by the MAG POPTAC and approval at the September meeting of the MAG POPTAC.

6. Delineation of 5-Percent and 1-Percent Public Use Microdata Areas (PUMAs)

The Census Bureau is offering State Data Centers an opportunity to delineate or coordinate the delineation of subareas, known as Public Use Microdata Areas (PUMAs). For Maricopa County there needs to be a delineation of 5-Percent PUMAs, each of which holds at least 100,000 people; and 1-Percent PUMAs each of which holds at least 400,000 people. The advantage of delineating PUMAs, is that any Census data can be cross tabulated for each of these subareas. Therefore, Census data that is not normally available in standard Census products can be created for PUMAs. The State Data Center is required to have the PUMAs delineated by August 31, 2001 and has solicited input from MAG and its member agencies on the delineation of the PUMAs by August 22, 2001. MAG staff has delineated 22 5-Percent PUMAs and 6 1-Percent PUMAs using rules set forth by the Census Bureau. The MAG POPTAC Ad Hoc Subcommittee will be requested to approve the creation of these PUMA Please see Attachment Three.

5. For information, discussion and possible action.

6. For information, discussion and possible action.

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
POPULATION TECHNICAL ADVISORY COMMITTEE ADHOC SUBCOMMITTEE

April 19, 2001
MAG Office, Suite 200, Saguaro Room
302 North 1st Avenue
Phoenix, Arizona

MEMBERS IN ATTENDANCE

Harry Higgins, Scottsdale, Chairman
Bob Pazera, Chandler
Kate Langford, Glendale

Tom Ellsworth, Mesa
Tim Tilton, Phoenix
Mark Elma, Tempe

*Those members not present

OTHERS IN ATTENDANCE

George Pettit, Gilbert
Shawney Chadwell, Queen Creek

Anthony Farier, Avondale
Harry Wolfe, MAG
Don Worley

1. Call to Order

The meeting was called to order by Chairman Bob Pazera at 12:15 p.m.

2. Approval of Minutes of March 15, 2001

It was moved by Tim Tilton seconded by Mark Elma and unanimously recommended to approve the meeting minutes of March 15, 2001.

3. Status Report on Census 2000

Harry Wolfe reported that the Census Bureau released redistricting data for Arizona, including total population and population 18 years and older by race and ethnicity down to the block level of geography.

He discussed a set of tables that were distributed to the Ad Hoc Subcommittee. He also discussed the pending schedule for the release of other Census data for the rest of the year. Mr. Wolfe explained the process for filing an appeal through the Count Question Resolution Program (CQR) program which will begin on June 30, 2001 and extend through September 2003.

4. Preparations for the Next Round of Socioeconomic Projections

Harry Wolfe noted that the next set of socioeconomic projections are scheduled to be developed in 2002. He said that MAG is undertaking a GIS and Database Enhancement Project to establish the base from

which these socioeconomic projections will be developed.

Mr. Wolfe noted that the Development Database was reviewed by member agencies in 2000 and input incorporated; an updated MAG Street Centerline File have been forwarded to member agencies for review; and a draft employment database would be distributed in the next month.

He also noted that in preparation for the update of the General Plan and Existing Plan Land Use Coverages MAG member agencies would need to review the proposed equivalency file establishing a correspondence between jurisdictional land use codes and MAG land use codes; and obtain local jurisdiction approval of the guidelines used to define vacant land.

Don Worley reviewed the assumptions for defining vacant land. Members of the Ad Hoc Subcommittee concurred with the guidelines.

Harry Wolfe reviewed the need to revise Municipal Planning Areas (MPAs) to take into account new annexations and/or member agency planning area changes. George Pettit indicated that Gilbert and Queen Creek had worked out an understanding regarding their respective boundaries and would send a copy of it to MAG staff.

Harry Wolfe indicated that he would be setting up meetings with impacted jurisdictions during the coming week.

The meeting adjourned at 12:50 p.m.

ATTACHMENT ONE

August 14, 2001

TO: Members of the MAG Population Technical Advisory Committee

FROM: Harry Wolfe, Senior Project Manager

SUBJECT: TRANSMITTAL OF DRAFT JULY 1, 2001 MAG MUNICIPALITY RESIDENT POPULATION UPDATES

MAG staff has prepared draft July 1, 2001 Municipality Resident Population Updates. The Updates were prepared using data supplied and verified by MAG member agencies and a method that was reviewed with members of the MAG POPTAC Ad Hoc Subcommittee. The MAG Population Technical Advisory Committee Ad Hoc Subcommittee is requested to recommend approval of the July 1, 2001 Municipality Resident Population Updates to the MAG POPTAC.

BACKGROUND

In accordance with Executive Order 95-2, each year MAG prepares municipality resident population updates for cities and towns in Maricopa County and the unincorporated portions of the County. It is required that these updates be consistent with the Arizona Department of Economic Security (DES) Maricopa County Updates, and comply with standards established by DES. The Director of DES is required to forward the Updates to the Economic Estimates Commission by December 15th of each year. The Updates are used to allocate \$23 million in lottery funds to local jurisdictions, establish expenditure limitations where appropriate, set budgets for local governments and determine compliance with municipal per capita water use targets established by the Arizona Department of Water Resources.

The draft July 1, 2001, MAG Municipality Resident Population Updates were developed by MAG staff using housing unit data supplied by MAG member agencies and a method described at the end of this memo. This method differs from that used in the past because of the proximity of the decennial census and the lack of available data on housing units by type. The differences are noted below.

1. Instead of developing an independent State and County control total and then benching the municipality updates to this control total, the sum of each of the individual jurisdiction's population was used as the County and State control total.
2. Because of the proximity of Census 2000, no adjustment was made to Census occupancy rates using the Phoenix Metropolitan Housing Study.
3. Because of the lack of census data by housing unit type, occupancy rates and persons per occupied unit for total housing units by jurisdiction were used. These were applied to the total number of housing units to derive a July 1, 2001 resident population in households.

These draft updates are subject to change based on input received. It should be noted that the population in group quarters was prepared using the latest information provided to DES. Because the deadline for submitting data to DES on population in group quarters is the end of the day August 15, 2001, there may be some changes that need to be made to account for last minute submissions.

The draft Updates are scheduled for consideration by the MAG Management Committee on September 12, 2001 and by the Regional Council on September 26, 2001. They will be considered by the State POPTAC on October 23, 2001.

The MAG POPTAC Ad Hoc Subcommittee is requested to recommend approval of the July 1, 2001 Municipality Resident Population Updates to the full MAG POPTAC. If you have any questions or need additional information, please contact me or Don Worley at 254-6300.

July 1, 2001 MUNICIPALITY RESIDENT POPULATION UPDATE METHODOLOGY

1. Using the 2000 Decennial Census as the base, determine the April 1, 2000 total units, occupied units, occupancy rates and population per occupied unit for each jurisdiction.
2. Add in residential units completed for the time period from April 1, 2000 to June 30, 2001.
3. Subtract demolitions for the time period from April 1, 2000 to June 30, 2001.
4. Add/subtract annexations/de-annexations from April 1, 2000 to June 30, 2001.
5. Calculate new housing stock numbers from the base Census housing units + permit completions-
demolitions +- annexations.
6. Multiply new housing stock by occupancy rates and by population per occupied unit based on the
2000 Census to derive a resident population in households.
7. Add to the resident population in households, the July 1, 2001 resident population in Group Quarters
based upon a survey conducted by DES. This yields a total resident population.
8. Round the total resident population to the nearest 5 in accordance with DES standards.
9. Take the sum of the total resident population in households to derive a Maricopa County resident
population in households; and take the sum of the resident population in group quarters to derive a
Maricopa County resident population in Group Quarters.
10. Take the sum of the total resident population in the County and round to the nearest 25 people in
accordance with DES standards.

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JULY 1, 2001 MUNICIPALITY POPULATION AND HOUSING UNIT UPDATE

MARICOPA ASSOCIATION OF GOVERNMENTS

Jurisdiction	Year 2000 Census (April 1, 2000)							Net Units 4/01/2000 - 6/30/2001	Population from new Units	Annexations		July 1, 2001 Update			
	Population			Housing Units		Pop. Per Occupied Unit	Occupancy Rate			Population	Housing Units	Population			Total Housing Units
	Total	Household	Group Quarter	Total	Occupied							Household	Group Quarter	Total (Round to 5)	
Avondale	35,883	35,737	146	11,419	10,640	3.35874	0.93178	1,458	4,563	0	0	40,300	146	40,445	12,877
Buckeye	6,537	6,528	9	2,344	2,158	3.02502	0.92065	141	393	3	1	6,923	3,448	10,370	2,486
Carefree	2,927	2,927	0	1,769	1,389	2.10727	0.78519	103	170	0	0	3,097	0	3,095	1,872
Cave Creek	3,728	3,728	0	1,753	1,571	2.37301	0.89618	81	172	0	0	3,900	0	3,900	1,834
Chandler	176,581	175,799	782	66,592	62,377	2.81833	0.93670	3,852	10,169	32	12	186,000	856	186,855	70,456
El Mirage	7,609	7,608	1	3,162	2,121	3.58699	0.67078	1,789	4,304	0	0	11,912	1	11,915	4,951
Fountain Hills	20,235	20,228	7	10,491	8,653	2.33769	0.82480	475	916	0	0	21,144	44	21,190	10,966
Gila Bend	1,980	1,980	0	766	659	3.00455	0.86031	7	18	0	0	1,998	0	2,000	773
Gila River	2,699	2,654	45	685	629	4.21940	0.91825	0	0	0	0	2,654	45	2,700	685
Gilbert	109,697	109,631	66	37,007	35,405	3.09648	0.95671	4,273	12,659	6	2	122,295	66	122,360	41,282
Glendale	218,812	215,955	2,857	79,667	75,700	2.85277	0.95021	2,272	6,159	0	0	222,114	2,857	224,970	81,939
Goodyear	18,911	16,541	2,370	6,771	6,179	2.67697	0.91257	1,601	3,911	0	0	20,452	2,370	22,820	8,372
Guadalupe	5,228	5,220	8	1,184	1,110	4.70270	0.93750	0	0	0	0	5,220	8	5,230	1,184
Litchfield Park	3,810	3,780	30	1,633	1,508	2.50663	0.92345	16	37	0	0	3,817	30	3,845	1,649
Mesa	396,375	392,426	3,949	175,701	146,643	2.67606	0.83462	7,494	16,738	963	431	410,126	3,949	414,075	183,626
Paradise Valley	13,664	13,652	12	5,499	5,034	2.71196	0.91544	101	251	0	0	13,903	12	13,915	5,600
Peoria *	108,363	106,849	1,514	42,570	39,183	2.72692	0.92044	3,520	8,835	0	0	115,684	1,514	117,200	46,090
Phoenix	1,321,045	1,298,577	22,468	495,832	465,834	2.78764	0.93950	9,164	24,000	0	0	1,322,577	22,468	1,345,045	504,996
Queen Creek *	4,197	4,197	0	1,229	1,172	3.58106	0.95362	183	625	0	0	4,822	0	4,820	1,412
Salt River	6,405	6,355	50	2,526	1,959	3.24400	0.77553	33	83	0	0	6,438	50	6,490	2,559
Scottsdale	202,705	201,028	1,677	104,974	90,669	2.21716	0.86373	3,787	7,252	4	2	208,284	1,677	209,960	108,763
Surprise	30,848	30,724	124	16,260	12,484	2.46107	0.76777	3,997	7,553	0	0	38,277	124	38,400	20,257
Tempe	158,625	153,383	5,242	67,068	63,602	2.41161	0.94832	338	773	0	0	154,156	5,280	159,435	67,406
Tolleson	4,974	4,974	0	1,485	1,432	3.47346	0.96431	20	67	0	0	5,041	0	5,040	1,505
Wickenburg	5,082	5,039	43	2,691	2,341	2.15250	0.86994	40	75	6	3	5,120	43	5,165	2,734
Youngtown	3,010	2,857	153	1,783	1,641	1.74101	0.92036	90	144	0	0	3,001	153	3,155	1,873
Unin-New River	10,740	10,695	45	4,514	3,921	2.72762	0.86863	40	95	0	0	10,790	45	10,835	4,554
Unin-Rio Verde	1,419	1,419	0	1,168	761	1.86465	0.65154	37	45	0	0	1,464	0	1,465	1,205
Unin-Sun City	38,309	37,641	668	27,731	23,490	1.60243	0.84707	172	233	0	0	37,874	668	38,540	27,903
Unin-Sun City West	26,344	26,083	261	17,359	14,997	1.73921	0.86393	42	63	0	0	26,146	261	26,405	17,401
Unin-Sun Lakes	11,936	11,936	0	7,746	6,683	1.78602	0.86277	326	502	0	0	12,438	0	12,440	8,072
Unin-Other	113,471	111,215	2,256	48,852	40,941	2.71647	0.83806	3,282	7,472	-1,012	-451	117,674	296	117,970	51,683
Total	3,072,149	3,027,366	44,783	1,250,231	1,132,886	2.67226	0.90614	48,734	118,277	0	0	3,145,643	46,411	3,192,050	1,298,965

Note: Totals may not add due to rounding.

* Maricopa County portion only. Total Year 2000 Census population: Peoria = 108,364 Queen Creek = 4,316.

Sources: U.S. Bureau of the Census Year 2000 Census, Maricopa Association of Governments Residential Completion database.

Prepared by the Maricopa Association of Governments, August 2001.

July 1, 2001	
Occupied Housing Units	1,175,923
Pop. per Occupied Housing Unit	2.67504
Occupancy Rate	0.90528

ATTACHMENT TWO

SUMMARY OF POPULATION PROJECTION METHODOLOGY for County Population Projections 1997 - 2050

The population projections for the State of Arizona were produced using the *State of Arizona Demographic Cohort-Survival Projections Model*. This model is a bottom-up model; county populations are projected first, then totaled to get the state population numbers. The model projects each component of population change (births, deaths, in-migration and out-migration) separately according to single-age and sex. Each component of change is affected by both the age distribution and sex structure of the population. In addition, each component of change affects the other components of change. For example, migration may increase the population of the female population age 10-50, therefore resulting in an increase in the number of births because of a higher number of women able to bear children. Deaths may increase or decrease in one year depending on the age distribution of the population and the sex structure of the population. If the age distribution is skewed towards the older age groups, a greater number of deaths will occur.

The model projects population by closely modeling the process of migration, births, and deaths in the population by single-age and sex, and by modeling the aging of the population by single-age and sex.

PROJECTION OF DEATHS

The model began with the most recent census¹ enumeration by single-age and sex as the base population, then the population was survived one year ahead by using age and sex specific survival rates. People who are 1 year old in the base year become 2 years old, and people 2 years old become 3 years old. This process applies to all age cohorts. Survival rates by single-year of age and sex were taken from current life tables that were computed from the Population Statistic Unit's Life Table Program using the most recent single-age and sex specific population data and the average number of deaths (as reported by the Arizona Department of Health Services) for 1993 through 1995. The survival rates were kept constant throughout the projection period.

PROJECTION OF BIRTHS

Fertility rates for women age 10-50 were computed by taking the average number of births for 1993 through 1995 by age of mother, and dividing it by the female population according to age. These fertility rates were applied to each female cohort in the 10-50 age group to project births. The fertility rates were kept the same throughout the projection period. Using birth data going back 20 years, the average proportion of male births to female births was calculated. The total projected births were then separated into male and female births by multiplying total births by the male proportion number to calculate male births, and multiplying total births by the female proportion number to calculate female births.

PROJECTION OF IN-MIGRATION

In-migration was projected by multiplying the national population minus the county population being projected by age-specific and sex-specific in-migration rates. In-migration rates for each age and sex were derived from the 1990 Census question on migration between 1985 and 1990. The in-migration rates were calculated using the in-migration for 1985-1990 divided by an adjusted 1985 national population. The adjusted national population is: the national population minus the county population being projected, plus the in-migration between 1985 and 1990 into the county being projected, minus the out-migration from the county that took place between 1985 and 1990. These adjustments give a national population that can be used as a denominator in calculating the in-migration rates.

PROJECTION OF OUT-MIGRATION

Out-migration was projected by multiplying the county population by age specific and sex specific out-migration rates. Out-migration rates for each age and sex were derived from the 1990 Census question on migration between 1985 and 1990. The out-migration rates were calculated using the out-migration for 1985-1990 divided by an adjusted 1985 county population. The adjusted county population is: the county population minus the in-migration that took place between 1985 and 1990, plus the out-migration from the county between 1985 and 1990. These adjustments give a county population that can be used as a denominator in calculating the out-migration rates.

CONVERGING TO THE 1996 ESTIMATE

At first, the model does the projection to 1996 and compares the total projected population with the control total (1996 estimate), and, if there is any difference, the model will iteratively adjust the single-age in-migration rates and out-migration rates until the projection for 1996 exactly matches the control total. These adjusted migration rates are closer estimates of the true migration rates because they have been realigned to the migration that took place between the most recent census¹ enumeration and 1996. These rates were held constant throughout the projection period.

Notes

¹ For most counties the 1990 Census of Population and Housing was the most recent available Census data. In three counties, Graham, Yuma and Maricopa, a mid-decade Special Census was conducted in 1995.

LAST REVISION February 7, 1997.

August 14, 2001

TO: Members of the MAG POPTAC Ad Hoc Subcommittee

FROM; Harry P. Wolfe, Senior Project Manager

SUBJECT: ESTABLISHMENT OF PUBLIC USE MICRODATA AREAS
(PUMA)BOUNDARIES FOR CENSUS 2000

The Census Bureau is offering State Data Centers an opportunity to delineate or coordinate the delineation of subareas, known as Public Use Microdata Areas (PUMAs). The advantage of delineating PUMAs is that any Census data can be cross tabulated for each of these subareas. Therefore, Census data that is not normally available in standard Census products can be created for PUMAs.

The State Data Center is required to have the PUMAs delineated by August 31, 2001 and has solicited input from MAG on the delineation of the PUMAs by August 22, 2001. Five Percent PUMAs hold at least 100,000 people; and 1-Percent PUMAs hold at least 400,000 people. MAG staff has developed proposed boundaries for 1-Percent PUMAs and 5-Percent PUMAs. We are requesting approval of these boundaries from the MAG POPTAC Ad Hoc Subcommittee. Any input on these boundaries needs to be provided to MAG prior to the August 21, 2001 meeting of the Ad Hoc Subcommittee.

The Census Bureau has provided rules and recommendations for the delineation process for PUMAs. Using these rules, MAG has created 22 5-Percent PUMAs. The PUMAs are based upon aggregations of contiguous Census Tracts to achieve a PUMA population of between 100,000 and 200,000 people.

Another consideration in establishing the 5-Percent PUMAs was to have them coincide as much as possible with existing City Council Districts. We also tried to keep the PUMAs within the same Municipal Planning Area. The size and shape of Census Tracts, however, prevented us from keeping the PUMAs entirely within the MPAs.

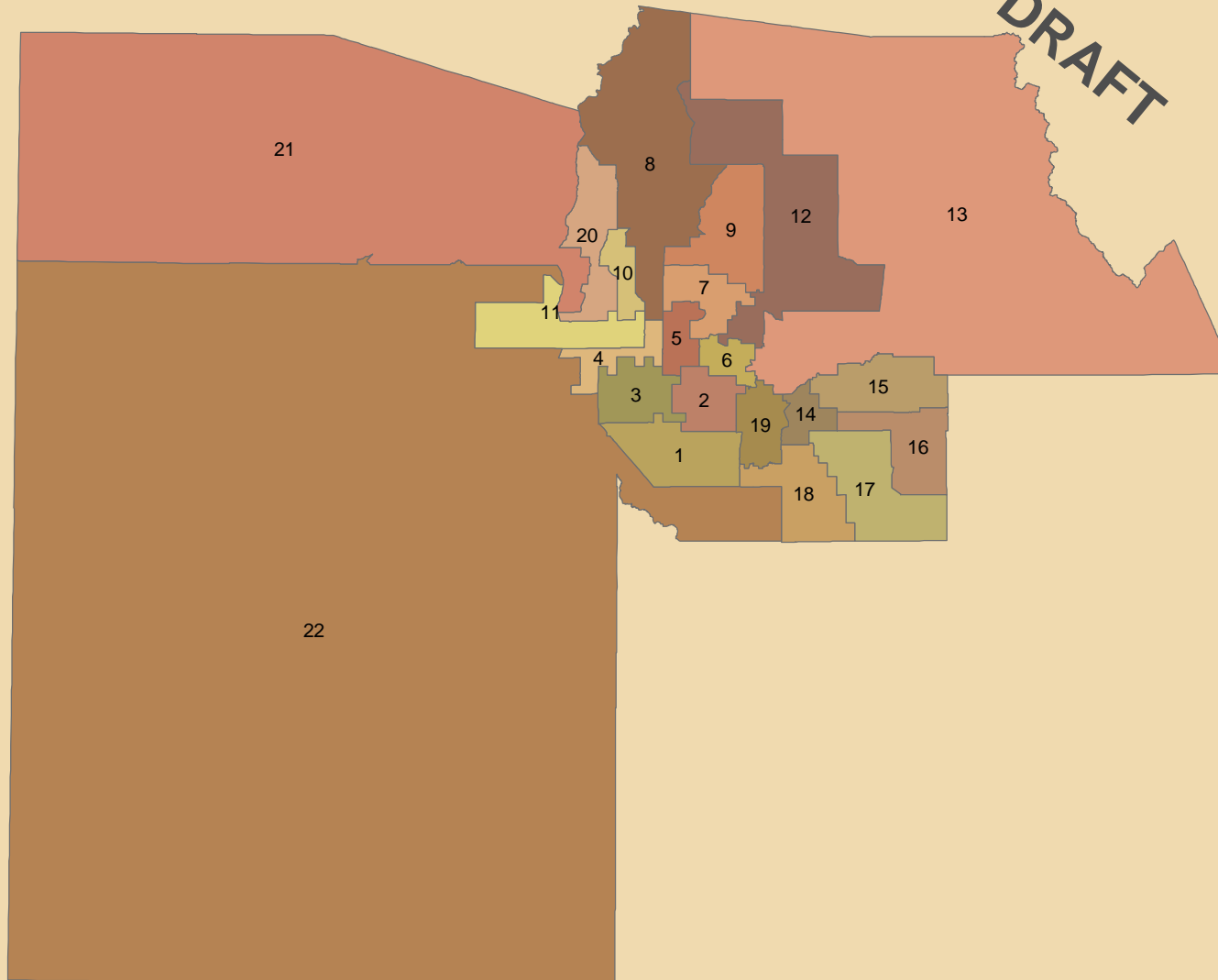
MAG also created six 1-Percent PUMAs. These were established by aggregating contiguous 5-Percent PUMAs. Each 1-Percent PUMA has between 400,000 and 600,000 people.

If you have any questions or need additional information, please contact Don Worley at (602) 254-6300.

**CENSUS 2000 5% PUMA BOUNDARIES
BASED UPON PHOENIX, MESA,
AND GLENDALE COUNCIL DISTRICTS
AND MPA**

Maricopa County, Arizona

5% DRAFT



5% PUMA POPULATION

1	104,352
2	143,876
3	148,303
4	169,069
5	170,752
6	103,984
7	146,150
8	174,453
9	188,935
10	116,247
11	120,787
12	152,743
13	100,324
14	152,860
15	183,523
16	100,117
17	126,516
18	189,676
19	163,902
20	109,336
21	102,745
22	103,499

While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.

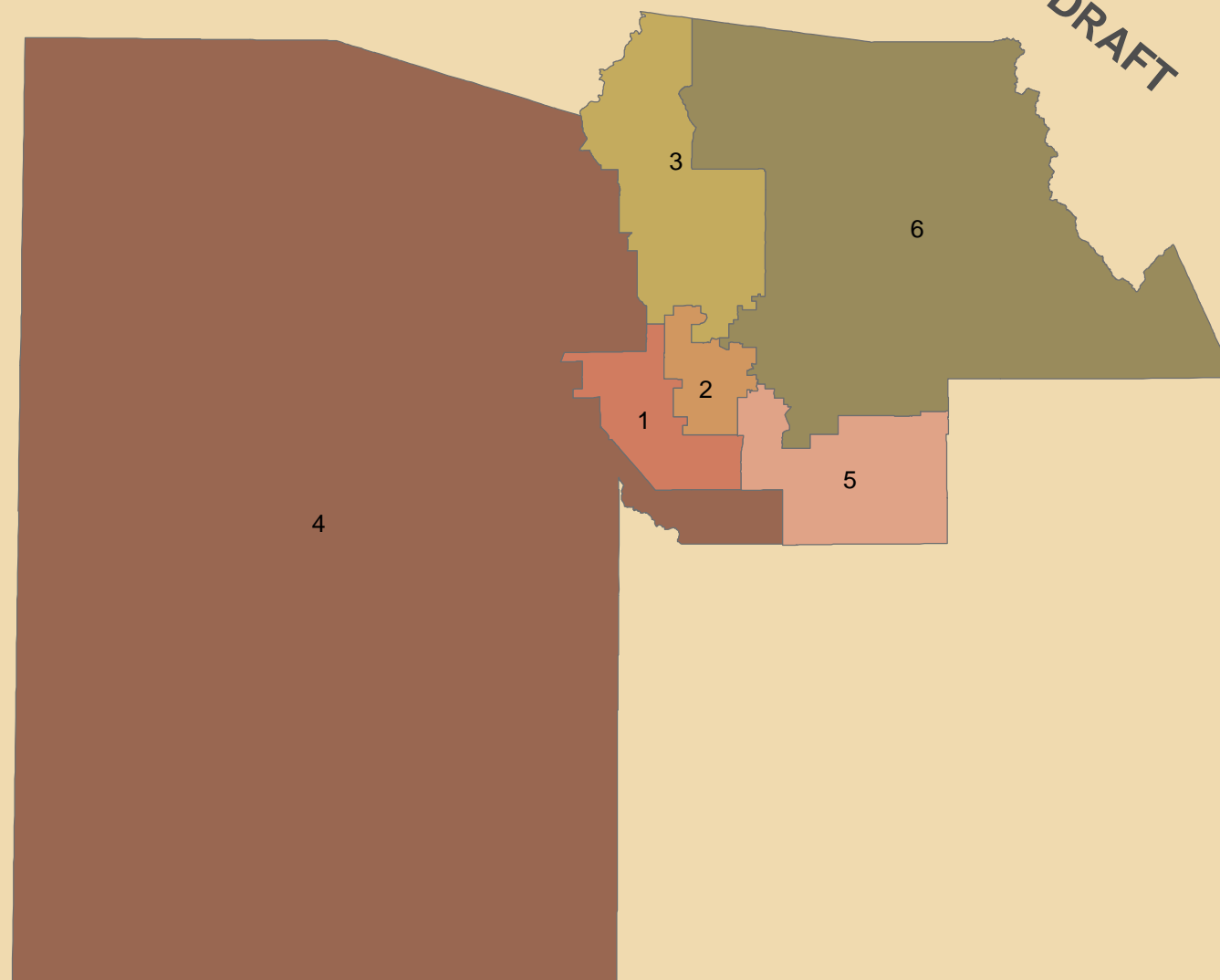


5 0 5 10 Miles

CENSUS 2000 1% PUMA BOUNDARIES

Maricopa County, Arizona

1% DRAFT



1% PUMA POPULATION

1	421,724
2	418,612
3	509,538
4	552,614
5	580,211
6	589,450

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